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**1. PROBLEM STATEMENT**

In order to continue taking a proactive stance on decreasing the number of motorists driving under the influence (DUI) from the road with a goal of reducing the number of deaths and injuries attributable to alcohol and drug involvement, the San Luis Obispo County Sheriff's Office (SLOSO) established a California Department of Public Health (CDPH) approved Forensic Alcohol Laboratory (FAL). The FAL currently has one 2007 model Gas Chromatographer (GC) that was modified to analyze Blood Alcohol Concentrations (BAC) on DUI samples using Headspace technology during the CDPH approval process. This analyzer has been used as a single injection column instrument with a retrofitted auto-sampler. Though this GC has provided accurate test results with acceptable precision, the FAL section of the crime lab would be better prepared to continue providing DUI testing services with a state-of-the-art dual column GC with headspace. This would ensure the highest quality of BAC testing is provided to law enforcement agencies throughout the County.

OTS granted the SLOSO FAL funds to purchase 40 Portable Evidentiary Breath Testing (PEBT) devices in 2013 to be distributed to San Luis Obispo Police Department, Paso Robles Police Department, Atascadero Police Department, Morro Bay Police Department, Grover Beach Police Department, Pismo Beach Police Department, both Templeton and San Luis Obispo Highway Patrol divisions, the SLOSO jail and substations, and State Parks and Recreation. These agencies are all actively involved in decreasing alcohol and drug related vehicular crashes. The purchase of the PEBTs was a necessary upgrade from the out-of-date devices previously used.

The SLOSO FAL is responsible for monitoring, maintaining and testifying for all of the agencies using these PEBTs. In addition, the FAL currently provides the BAC testing for the above agencies participating in DUI reduction and investigation for San Luis Obispo County. The Forensic Alcohol Supervisor closely monitors accuracy and precision of the older analyzer and it is beginning to lose reliability and will become unusable within the next year or two. This is the only analyzer in the lab capable of analyzing BAC samples. If it were to become inoperable the laboratory would be unable to process the close to 100 blood samples per month it receives from the above listed law enforcement agencies in the County.

The SLOSO FAL has proven very efficient for the San Luis Obispo County District Attorney's Office as far as assisting in rapid adjudication of DUI arrests. The turnaround time for results for BACs has improved from two weeks to 4-5 days since establishing the FAL. This has also helped the Department of Motor Vehicles (DMV) with faster processing of administrative hearings. There would be a very negative affect to all of the previously listed law enforcement agencies, the District Attorney's Office and the DMV if the FAL were unable to process BAC samples in house. Though there is no current problem with the results being reported from the SLOSO FAL, the laboratory is in danger of an instrument failure within the next year or two.

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Figures 1 and 2, shown below, represent the average percent variation of results in duplicate analysis of BAC samples and how that variation trends toward an increase as sampling continues for batch runs. The data included in these two figures was gathered over the first six months that the lab was in operation. Sample result variation ranges from 0.36 percent to 2.92 percent from run to run.

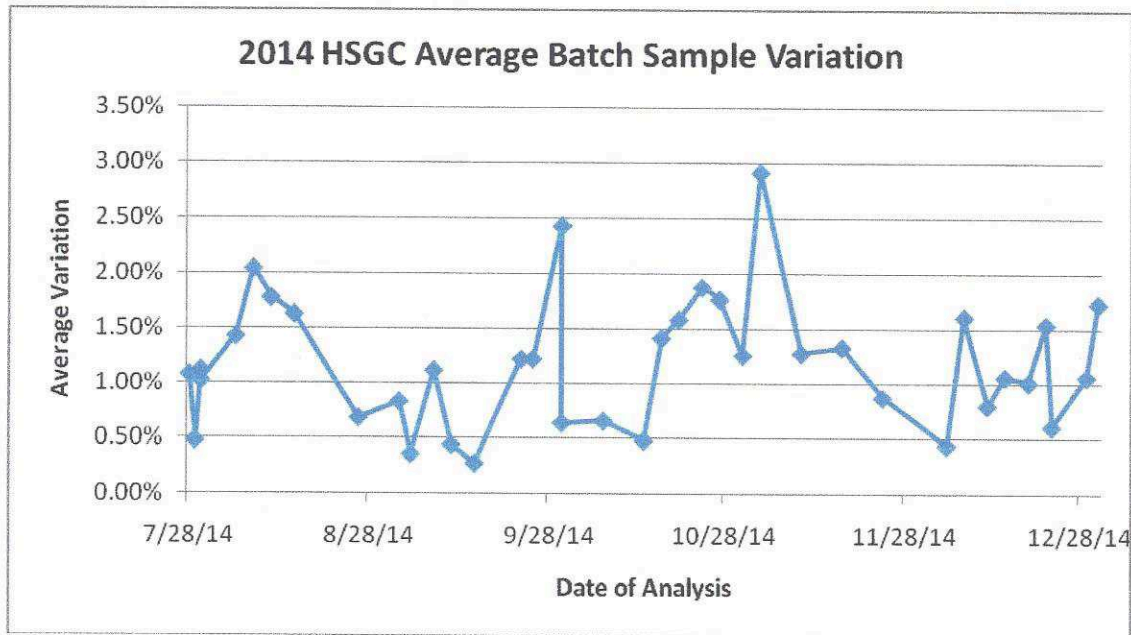


Figure 1

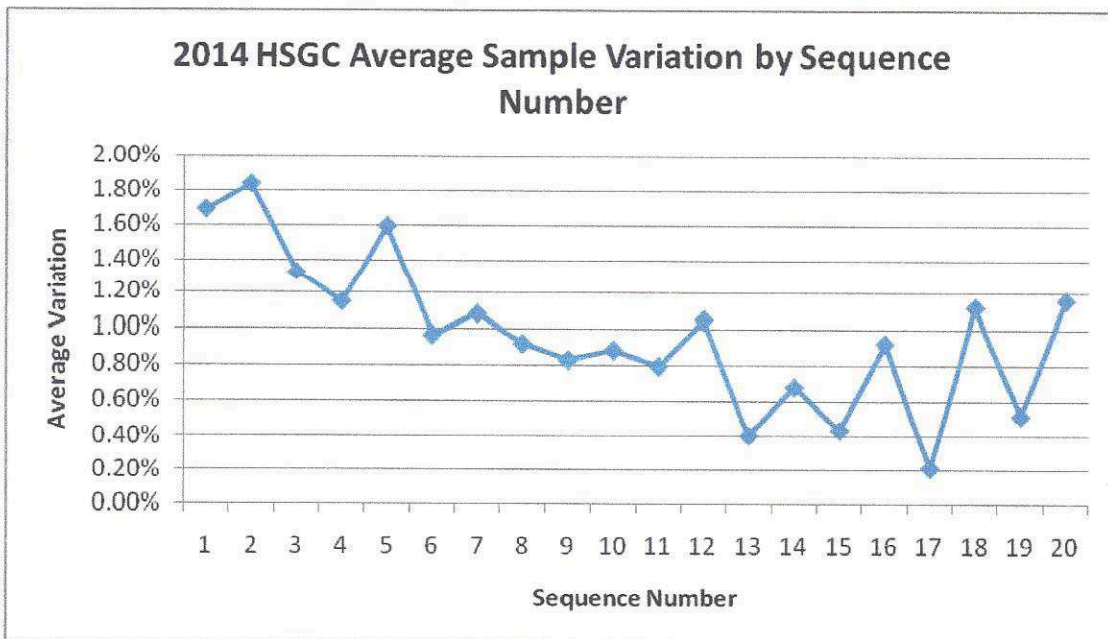




Figure 2

Figures 3 and 4, shown below, represent the average percent variation of results in duplicate analysis of BAC samples and how that variation trends toward an increase as sampling continues for batch runs. The data included in these two figures was gathered over the 2015 annual year. Sample result variation ranges from 0.41 percent to 2.94 percent from run to run.

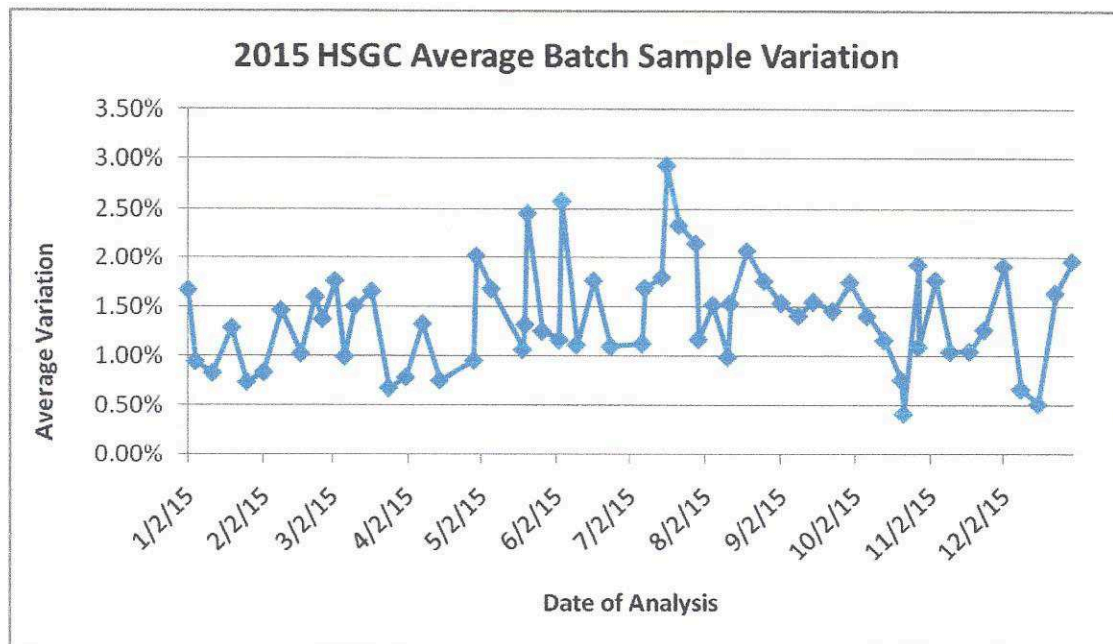


Figure 3

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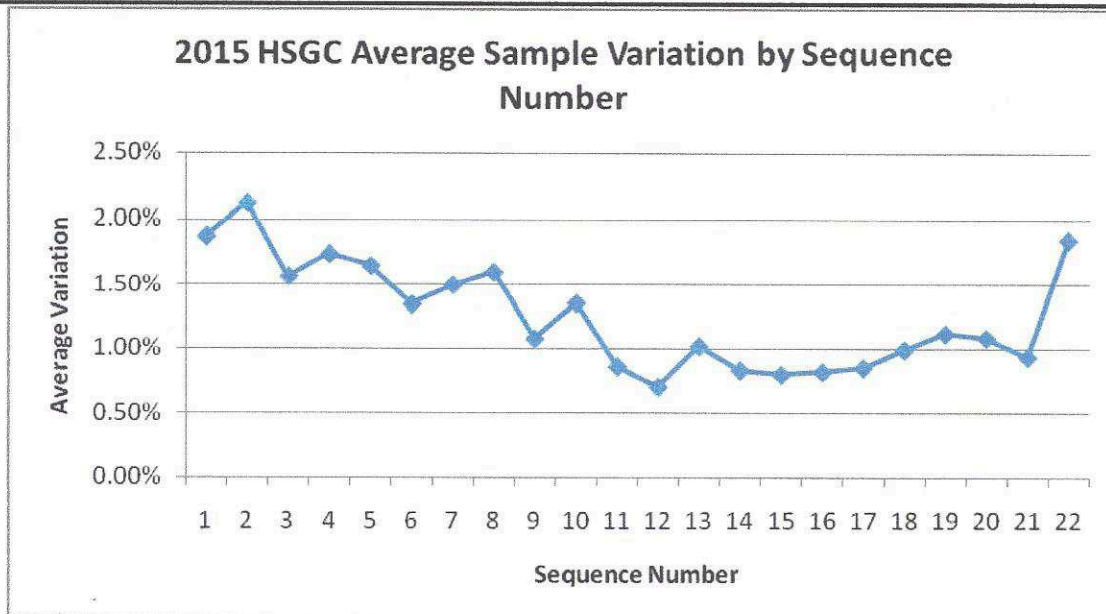


Figure 4

These figures show that though the variations are still within acceptable limits for the CDPH they are an indicator that the instrument reliability may become questionable.

The SLOSO FAL provides DUI blood sample testing to San Luis Obispo Police Department, Paso Robles Police Department, Atascadero Police Department, Morro Bay Police Department, Grover Beach Police Department, Pismo Beach Police Department, both Templeton and San Luis Obispo Highway Patrol divisions and State Parks and Recreation here in the County. Each of these agencies depends on the reliability of the SLOSO FAL to assist in reducing the number of deaths and injuries attributable to alcohol and drug involvement. The best way to accomplish this is through the use of state-of-the-art equipment assuring continued CDPH qualification for the laboratory.

## **2. PERFORMANCE MEASURES**

### **A. Goals:**

- 1) Reduce the number of persons killed in traffic collisions.
- 2) Reduce the number of persons injured in traffic collisions.
- 3) Reduce the number of persons killed in alcohol/drug involved collisions.
- 4) Reduce the number of persons injured in alcohol/drug involved collisions.
- 5) Increase Blood Alcohol Concentration duplicate testing reliability.

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- 6) Maintain high quality Blood Alcohol Concentration testing.
- 7) Improve outdated Blood Alcohol Concentration testing equipment.

**B. Objectives:**

- 1) Issue a press release announcing the kick-off of the grant by November 15. The kick-off press releases and media advisories, alerts, and materials must be emailed to the OTS Public Information Officer at [pio@ots.ca.gov](mailto:pio@ots.ca.gov), and copied to your OTS Coordinator, for approval 14 days prior to the issuance date of the release.
- 2) Perform BAC correlation studies with approximately 500 duplicate sample analyses testing to all the law enforcement agencies in San Luis Obispo County.
- 3) Procure and install a state-of-the-art dual column Gas Chromatographer with a Headspace Autosampler.
- 4) Train appropriate personnel to use and maintain the new instrument and its data management system (on-site).
- 5) Validate the upgraded GCHS for use in blood alcohol analysis by logging precision statistics.
- 6) Complete BAC statistical analysis showing improved precision between duplicate testing on persons killed in alcohol/drug involved collisions.
- 7) Complete BAC statistical analysis showing improved precision between duplicate testing on persons injured in alcohol/drug involved collisions.

**3. METHOD OF PROCEDURE**

**A. Phase 1 - Program Preparation, Training and Implementation (1<sup>st</sup> Quarter of Grant Year)**

- October 2016: Request for use of Office of Traffic Safety grant funds will be placed on the San Luis Obispo County Board of Supervisors (BOS) agenda.
- October 2016 - November 2016: Upon BOS approval order and install GC with headspace autosampler.
- October 2016: Laboratory Assistant position will be increased from half-time to three quarter- time.
- October 2016 -November 2016: Public Information Officer will be informed of media requirements.



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- November 2016 - December 2016: Laboratory Assistant will start organizing a series of blood samples to be used to run correlation and validation studies as required by the CDPH.

**B. Phase 2 - Program Operations (Throughout Grant Year)**

- December 2016 - March 2017: Laboratory will perform duplicate BAC testing on the new GC instrument after samples have been processed on the existing GC analyzer.
- March 2017: Three months' worth of duplicate sample analysis on the new GC instrument will be charted to compare the variation to that of the existing outdated GC instrument. Variation on the new GC instrument is expected to be less than 1% for each duplicate test throughout the length of each run. This data will be submitted to OTS.
- April 2017 - June 2017: The laboratory will continue to perform duplicate testing on the new GC instrument after BAC samples have been processed on the existing analyzer.
- July 2017: The three months' worth of duplicate sample analysis on the new GC instrument gathered from April 2017 through June 2017 will be charted to compare the variation to that of the existing outdated GC instrument. Again, the variation on the new GC instrument is expected to be less than 1% for each duplicate test throughout the length of each run. This data will be submitted to OTS.
- August 2017-September 2017: The Forensic Alcohol Laboratory will submit any information necessary to the California Department of Public Health to have the new GC with headspace autosampler approved for use as the DUI BAC analyzer.
- September 2017: At the end of this month the SLOSO FAL will be using the new BAC analyzer to provide reliable, high quality sample analysis to San Luis Obispo Police Department, Paso Robles Police Department, Atascadero Police Department, Morro Bay Police Department, Grover Beach Police Department, Pismo Beach Police Department, both Templeton and San Luis Obispo Highway Patrol divisions and State Parks and Recreation here in the County. This will allow for prompt adjudication of cases in an effort to reduce the number of alcohol related injuries and deaths in San Luis Obispo County.

**Media Requirements**

- Submit all grant-related activity press releases, media advisories, and general public materials to the OTS Public Information Officer (PIO) at [pio@ots.ca.gov](mailto:pio@ots.ca.gov), with a copy to your OTS Coordinator.
- ✓ If an OTS template-based press release is used, the OTS PIO and Coordinator should be copied when the release is distributed to the press. If an OTS template is not used, or is substantially changed, a draft press release shall be sent to the OTS PIO for approval. Optimum lead time would be 10-20 days prior to the release date to ensure adequate turn-around time.

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- Use the following standard language in all press, media, and printed materials: Funding for this program was provided by a grant from the California Office of Traffic Safety, through the National Highway Traffic Safety Administration.
- Email the OTS PIO at [pio@ots.ca.gov](mailto:pio@ots.ca.gov) and copy your OTS Coordinator at least 30 days in advance, a short description of any significant grant-related traffic safety event or program so OTS has sufficient notice to arrange for attendance and/or participation in the event.
- Submit a draft or rough-cut of all printed or recorded material (brochures, posters, scripts, artwork, etc.) to the OTS PIO at [pio@ots.ca.gov](mailto:pio@ots.ca.gov) and copy your OTS Coordinator for approval 14 days prior to the production or duplication.
- Include the OTS logo, space permitting, on grant-funded print materials; consult your OTS Coordinator for specifics.

**C. Phase 3 – Data Collection & Reporting (Throughout Grant Year)**

- Invoice Claims (due January 30, April 30, July 30, and November 30)
- Quarterly Performance Reports (due January 30, April 30, July 30, and November 30)
  - ✓ Collect and report quarterly, appropriate data that supports the progress of goals and objectives.
  - ✓ Provide a brief list of activity conducted, procurement of grant-funded items, and significant media activities. Include status of grant-funded personnel, status of contracts, challenges, or special accomplishments.
  - ✓ Provide a brief summary of quarterly accomplishments and explanations for objectives not completed or plans for upcoming activities.
- Schedule C – Data Collection Form, if applicable.
  - ✓ Collect, analyze and report statistical data relating to the grant goals and objectives.

**4. METHOD OF EVALUATION**

Using the data compiled during the grant, the Grant Director will complete the “Final Evaluation” section in the fourth/final Quarterly Performance Report (QPR). The Final Evaluation should provide a brief summary of the grant’s accomplishments, challenges and significant activities. This narrative should also include whether goals and objectives were met, exceeded, or an explanation of why objectives were not completed.

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**5. ADMINISTRATIVE SUPPORT**

This program has full support of the county of San Luis Obispo. Every effort will be made to continue the activities after the grant conclusion.